

S.R.M., T.

ATH-0251

Mileš, O and Horva, P.

22/5-32(92)-10-23/39

**TITLE:** Peptides. II. Chemical Properties of the Growth Factors from Peptidase Hydrolysates (Chemical and Biological Properties of Peptides).  
**PUBLICATION:** Biologický časopis Československé Akademie věd, Praha (Biology Journal of the Czechoslovak Academy of Sciences), Vol. 52 (1958), No. 10, pp. 1075 - 1088  
**PERIODICAL:** Czechoslovakia (Czechoslovakia)

**ABSTRACT:** Changes in the rate of growth during the partial hydrolysis of proteins and the influence of chemical reactions on the activity of growth factors were investigated. The relative resistance of the growth factors from bacterial lactobacilli casein to enzymatic hydrolysis by proteases was explained by the behaviour of the amino groups of the peptides. The biological properties of the caseinophosphate peptide was described as well as investigation on the enzymatic hydrolysis of casein. Acrylic acid-cocarboxylic peptide fragments containing bound segments of acidic amino acids had a very strong effect. Experiments confirm the activity of peptides containing arginine. The existence of a growth factor, formed by the protein reaction of the dry acid hydrolysate of casein was confirmed. Peptides containing bound asparagine were

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Peptides from Protein Hydrolysates shown to possess growth activity [see 21]. The method previously described [see 21] was used to separate the casein of Promulan. The dependence of the growth activity on the concentration of casein was determined. The dependence of the growth activity on the concentration of casein in Promulan was determined by FID. The gradual separation of casein in Promulan was determined by FID. Results of taste on the growth activity of tryptophane peptide from chromatography on solid trypophane media indicated that casein contains tryptophane. Table 2, Table 31 data and growth curves are given. Results obtained during chromatography on cellulose column of the analysis of casein in phenol. Results of cellulose column in phenol and FID chromatography on a cellulose column in phenol. Structure of casein are given in Table 4. Betaine-acetic acidester structure are given in Table 5. Table 6 results on the test of the growth activity of some peptides. The authors found that the factor is soluble in water and can be separated in phenol. It was found that Promulan contains a number of substances which cannot be separated by ion exchange. The

Card 2/3

Individual factors could not be isolated. Each fraction contained a mixture of peptides. The hydrolysates contained a number of acidic amino acids, especially glutamic acid and slightly basic amino acids. It was also found that acetone solution of the growth factor is more active than the casein hydrolysate, which is present in the solution. It is heated. The separation of M. K. Kovalčová and J. Konečná is recommended. There are Tables and Figures about M. K. Kovalčová and J. Konečná. Card 3/3

**ASSOCIATION:** Biologické oddělení, Českého vědeckého institutu pro biokémii, Institut pro biokémii, Československá akademie věd, Praha (Institute for Biochemistry, Institute of Chemistry, Czechoslovak Academy of Sciences, Prague)

**RECEIVED:** 4th November, 1967

Card 3/3

CZ/8/52(82)/10-26/39

AUTHORS: Šorm, F., Keil, B., Holeyšovský, V., Meloun, B.,  
Míkés, O. and Vaněček, J.

TITLE: Proteins. XLIX. Comparison of the Microstructure of  
Chymotrypsinogen and Trypsinogen. Preliminary  
Communication (O bílkovinách. XLIV. Srovnání  
mikrostruktur chymotrypsinogenu a trypsinogenu.  
Predběžné sdělení)

PERIODICAL: Chemické Listy, 1958, Vol 52(82), Nr 10, pp 1992-1995  
(Czechoslovakia)

ABSTRACT: This is a continuation of the discussion on the micro-  
structure of proteins in which the authors draw on their  
own experimental results (previously published) and  
those of others. Attention is drawn to the repetition  
of certain peptide residues in the two proteins  
considered.  
There are 3 tables and 34 references, 12 of which are  
Czech, 22 Western.

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CZ/8/52(82)/10-26/39

Proteins XLIX. Comparison of the Microstructure of Chymotrypsinogen  
and Trypsinogen. Preliminary Communication

ASSOCIATION: Biochemické oddělení, Chemický ústav,  
Ceskoslovenská akademie věd, Praha (Biochemistry  
Division, Institute of Chemistry, Czechoslovak Academy  
of Science, Prague)

SUBMITTED: March 13, 1958

Card 2/2

isak m, 1.

REF ID: A652420017-3  
DATE: 07/10/1986  
TITLE: Structure of Lactucine  
PERIODICAL: Časopis Československé Akademie Věd, Mat. Mat. Fyz., Mat. Chem., Vol. 52, No. 11, pp. 2039 - 2043  
(Academy of Sciences of the Czechoslovakia)  
ABSTRACT: Lactucine  $C_{15}H_{26}O_7$  and its  $\beta$ -Hydroxyphenyleacetate lactucopinic  $C_{17}H_{28}O_7$  have long been known to be the bitter principles of certain members of the Compositae (e.g. Lettuce, Verbena, Achillea, Tanacetum, etc.). The structure of lactucine was previously established in detail by Saito and by Vesely in the early 1950's. According to these authors it is a sesquiterpenic lactone, which yields on selenous dehydrogenation an unsaturated dienone. The authors of the present paper state they are able to show that lactucine has a trisubstituted cyclohexene skeleton with an unsaturated lactone ring closed at position 6. On the basis of U.V. and I.R. spectra they formulate a structure for lactucine (cited in the Guisacolidine skeleton). One of the hydroxyls of lactucine is a secondary one on C(6); the second is a primary one, most likely situated on C(11). The authors give further evidence for structure I for lactucine in addition to that given previously (Ref. 5) and which appeared simultaneously with that of Bartoň and Lachman (Ref. 6). The authors also propose the absolute configurations of certain substituted lactones. There are 17 references, 5 of which are Czech, 1 Japanese and 7 English.  
ASSOCIATIONS: Oddziału Wydziału Chemicznego Instytutu Českosłowackiego Akademii Nauk, Praha (Division of Technical Products, Institute of Chemistry, Czechoslovakian Academy of Sciences, Prague.)  
SUBMITTED: June 10, 1958  
Card 1/2

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Structure I  
The structure of lactucine is proposed to be a trisubstituted cyclohexene derivative. The substituents are: a primary hydroxyl group at C(11), a secondary hydroxyl group at C(6), and a double bond between C(10) and C(11). The absolute configuration of the hydroxyl groups is not yet determined. The structure is shown below:

$$\text{CH}_3-\text{CH}(\text{OH})-\text{CH}_2-\text{CH}=\text{CH}-\text{CH}_2-\text{CH}(\text{OH})-\text{CH}_3$$

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$$\text{CH}_3-\text{CH}(\text{OH})-\text{CH}_2-\text{CH}=\text{CH}-\text{CH}_2-\text{CH}(\text{OH})-\text{CH}_3$$

Card 2/2

AUTHORS: Bykova, V. I. (Institute of Chemical Physics, Academy of Sciences of the Czechoslovakia)

TITLE: On Terpenes. Part II. Acorone and its Derivatives

PERIODICAL: Czechoslovakia, 1959, Vol. 11, pp. 2129 - 2130

**ABSTRACT:** The connection between rotation curves, van der Waals, resonance dispersion and the probable triad form of their isomers has been determined on the basis of optical rotation difference, dispersion rotatory curves, dipole moment and the molecular dynamic abilities of the above named substances and their derivatives. It is shown that acorone is a cisoided structure L<sub>1</sub> (Beta, 1,2) and acorone is a transoided structure L<sub>2</sub>. Structure I represents in structure the compounds differ substances. It was found that the compounds differ only in the substituents in the aromatic centers (C<sub>(+)</sub> and C<sub>(-)</sub>). Neighboring on the same side groups are given (C<sub>(+)</sub> and C<sub>(-)</sub>). Four stereoisomers are possible. Three of these are known and have already been tested and their IR-spectra are given in this paper together with their spectra. Card 1/3

**BIBLIOGRAPHY**

optical rotation difference and rotational dispersion curves. It is demonstrated that cisoided ring of acorone is a steric conformer, the transoided ring of acorone is a steric (i.e. boat) conformer and the other four (i.e. chair) conformers are by far more definite. Other evidence is given to prove that the steric configuration of the isopropyl group in the molecule is the opposite to that in neocarotene. The steric configuration of the isopropyl group in the molecule is the opposite to that in neocarotene. The steric configuration of the isopropyl group in the molecule is the opposite to that in neocarotene. The steric configuration of the isopropyl group in the molecule is the opposite to that in neocarotene. Since the steric isomer group of the six membered ring of acorone is neighbouring on the carbon 1 group, it is markedly subject to steric hindrance. It is probable that either the left or the opposite group of the five-membered ring of acorone is situated on the same side of the six-membered ring on which the carbon 1 is to be found. Other physical data such as refractive index, dipole moments and dielectric constants together with the course of the alkaline isomerism of the isomers is given.

There are 5 figures, 1 tables and 12 references, 3 of which are cited. In English and French.  
**ASSOCIATION:** Odilejej M. M., Institute of Chemical Physics, Czechoslovakian Academy of Sciences, Prague,  
 (Institute of Natural Resources), Institute of Chemistry,  
 Czechoslovakian Academy of Sciences, Prague.

SUBMITTED: April 30, 1959

Card 3/3

J. K. M., Jr.

CZECH/8-52-11-15/90

AUTHORS: Palkov, J. and Bora, P.

TITLE: On Steroids (10 Sterodec) XXXIX. Epimeric 2- and 4-bromo

Derivatives of 17 $\beta$ -Acetoxyandrostan (XXIX). Epimers; 2-bromo

and 4-bromo-3-ketoadrostan

PERIODICAL: Českého Slováka, Chemický Listy, 1958, Vol 52, Nr 11, pp 2115 - 2133

ABSTRACT: The preparation of the epimeric 2- and 4-bromoderivatives of androsterone, 2 $\alpha$ , 17 $\beta$ -dihydroxyandrostone and dihydroandrostone are described. The original bromo-epoxides and reactions were carried out to prove the structure of the epimeric 2- and 4-bromo-3-ketoderivatives of a series of steroid hormones. The structures of the compounds are discussed in considerable detail. The following preparation report (Ref. 1) has described the preparation of a series of steroid hormones and analogues with bromo-substituent in the 16 position. The 2- and 4-bromo-derivatives were studied to show the effect of substitution on physiological activity of the hormones. It was considered at the same time that these substances would be of interest from the

Card 1/4

stereochemical and spectroscopic viewpoint for the displacement of the carboxyl group in bromoketones for it is possible to infer the configuration of the bromine atom and even, in certain cases, the conformation of the related ring. The structures of the various compounds are discussed in considerable detail. The following preparation report (Ref. 1) has described the preparation of a series of steroid hormones and analogues with bromo-substituent in the 16 position. The 2- and 4-bromo-derivatives were studied to show the effect of substitution on physiological activity of the hormones. It was considered at the same time that these substances would be of interest from the

Card 2/4

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Card 3/4

ASSOCIATION: Oddílení přírodních látěk, Chemický ústav, Československá akademie věd, Praha (Division of Natural Products, Institute of Chemistry, Czechoslovakia, Prague)

SUBMITTED: March 12, 1958

SKM, I.

AUTHORS: Miteš, O. and Štěpnička, F.  
TITLE: Peptidic Growth Factors (Peptidické růstové stimulační)

XII. Isolation of a Peptidic Growth Factor from an Aromatic Hydrolysate of Casein (III. Isolace Peptidického růstového faktoru z aromatického hydrolyzátu kaseinu)

PERIODICAL: Časopis/1sttry [1958, Vol. 52] nr 11, pp 2160 - 2168

2 1/2 plates [Czechoslovakia]  
ABSTRACT: A simple method of extraction of streptokinase-active peptides from a partially (enzymatically) hydrolysed casein (from a British manufacturer) is given. It is based on an initial counter-current fractionation in a Craig counter-current fractionating system, then on column-chromatography on alumina and final paper chromatography and preparative Paper-electrophoresis to give an active fraction. The ion-exchange fractionation gave three groups (inactive basic, active neutral, active acid). A pure soluble hexapeptide was isolated from the acid fraction and this showed activity in the bio-assay with *Lactobacillus casei*. It was shown to contain 1 mol asparagine, 1 mol aspartic acid, 2 mol

Isoleucine and 2 mol proline. N-dinitrophenyl aspartic acid was found in the hydrolysate of the dinitrophenyl derivative of the peptide. The structure may thus be

ASP. (ASP-N<sub>2</sub>-PRO<sub>2</sub>-ILEU<sub>2</sub>)

or ASP. ASP<sub>2</sub>(ASP-PRO<sub>2</sub>-ILEU<sub>2</sub>)

There are 2 figures, 1 table and 5 references, 10 or which are Czech and 5 English.

ASSOCIATION: Biotechnický oddělení, Chemický ústav, Československá akademie věd, Praha (Biochemistry Department, Institute of Chemistry, Czechoslovak Acad. Sc., Prague)  
SUBMITTED: November 4, 1957

Card 2/2

AUTHORS: Doležil, L., Souček, M., Horák, K. and Šotová, P.  
 TITLE: On Terpenes (O terpenech) IČMIL. The Constitution of  
 Lodoč (Cyclohexyl. O konstituci lodoči).  
 PERIODICAL: Československý chemický listy, 1958, Vol. 52, Nr. 11, pp. 2198 - 2190

*Jan 24, 1981*

**ABSTRACT:** Kirbylov (Ref. 2) proposed I for lodoč ( $C_{15}H_{26}O$ ) a sesquiterpene isolated from *Laurus nobilis* and certain other plants. This structure has been criticized by de Mayo and by Lahay and Laheurton (Ref. 4). The latter showed the absence of an absorption band in the region 3024 - 2056  $\text{cm}^{-1}$  in the infrared spectra of lodoč, which is characteristic for cyclopropane rings with unsubstituted methyl group. On the basis of this observation and certain further results, which the authors can report, in more detail, two alternative structures, II and III, are proposed, analogous to the structures of globol and aranadendrene. In the infrared spectra of lodoč and deoxylodoč the authors failed to obtain an absorption band of about 1773  $\text{cm}^{-1}$ , which corresponds to an isopropenyl group. (Deoxylodoč is produced from lodoč by hydrogenolysis of the alcohol group. Both forms and Kirbylov (Ref. 10) call it dihydrolodoč and fail to differentiate it from the dehydration and hydrogenation products of lodoč. The infrared spectrum is similar to aranadendrene and differs fundamentally from the spectrum of kadiolane). The required frequency occurs only in the spectrum of tetralydrolodoč. This derivative is produced by the hydrogenation of unsaturated hydrocarbons with two double bonds obtained from lodoč by the action of acidic  $H_2SO_4$ . The reaction leads to the dehydration and degradation of the cyclopropane ring. Chemical evidence also exists which supports II and III. With the splitting of cyclopropane rings with  $H_2Br$  and the dehydrogenation of bromoalcohols with collidine, an unsaturated hydrocarbon derivative produced with collidine, the ozonolysis of which yielded acetone, formaldehyde and a mixture of higher ketones. An absorption band at 1702  $\text{cm}^{-1}$  was discovered in the infrared spectra of the higher ketone mixture, which is characteristic for carbonyl groups in seven or higher-membered rings. Similar results were also obtained by the ozonolysis of the hydrocarbon prepared by the isomerization of deoxylodoč on silice column. So direct evidence has yet been given for the positioning of the tertiary hydroxy group on the five-membered ring of lodoč. Kirbylov (1951) showed that the hydroxy is in a carbon which also had a methyl group. After the oxidation of lodoč (IV) with  $MnO_2$  (both derivatives are formulated on the basis of the lodoč structure for simplicity), the authors isolated, apart from the main product, the diol  $C_{15}H_{26}O_2$  already described by Kirbylov (1955) hydracetone, V, in small quantities. This possesses, according to infrared measurements, a ketogroup in the five-membered ring (absorption band at 1765  $\text{cm}^{-1}$ ). Kirbylov observed an interesting transformation on converting the diol  $C_{15}H_{26}O_2$  to deoxylodoč derivative (assigned structure VI). This reaction cannot be a simple pinacoline transformation. According to the authors' views, the three-membered ring participates in a reaction with mychonine acid, which can only be formulated with certainty on the basis of the formula II for lodoč. On the basis of the acids VII - VIII. The establishing of the actual structure of the deoxylodoč derivative and verification of the lodoč structure is the subject of further work by the authors.

Deoxylodoč, tetralydrolodoč and lodoč were prepared according to Kirbylov (1951). The products were purified chromatographically on  $Al_2O_3$ .  
**Reaction of Deoxylodoč with  $HNO_3$ :** Deoxylodoč ( $C_{17}H_{27}O$ ) was added to anhydrous nitric acid ( $1\text{ ml}$ ) saturated with Ayerden bromide. After 3 hours, shaking at 20°C the mixture, in which two layers had formed, was poured into water (10 ml.) and the neutral product isolated by the usual procedure. Halogen was determined directly after evaporation.

Calculated:  
 For  $C_{15}H_{27}Br$ :  
 Found:  
 27.65% Br  
 26.75% Br.

On Terpenes LXVII. The Constitution of Ladalol  
CZBCH/8-52-11-26/50

Dehydrobromination of the Bromoderivative by Colliding.  
The above obtained bromoderivative (500 mg) was heated to  
boiling point for 3 hours with collidine (20 ml.)<sup>1</sup>, a  
colourless liquid (60 ml; B.Pt. 117-118 °C;<sup>2</sup>) was  
isolated by the usual procedure. C<sub>15</sub>H<sub>26</sub>(200.4)

Calculated: 87.30% C; 12.70% H  
Found: 87.26% C; 12.65% H  
0.22 m ethylene double bonds were found by the Javes (Ref. 11)  
ionisation method for the determination of methylene  
groups.

Ionisation of Dexylool on Silica Gel.  
Dexylool (127.8)<sup>3</sup> was filtered on a silica gel column  
(9 g) heated with benzyl alcohol. The eluted hydrocarbon  
was cleared of the decompose by chromatography on an  
alumina A-20<sub>3</sub> column (10 g; act. I-II). The product is a  
colourless liquid (59.8 ml; B.Pt. 123-124 °C/9 mm) which  
gives an intense yellow colour with tetrancrotonic acid.

C<sub>15</sub>H<sub>26</sub>(200.4) Calculated: 87.30% C; 12.70% H  
Found: 87.15% C; 12.66% H

The Javes ionisation method for methylene groups gave  
0.26 m ethylene double bonds.

Ozonisation of the Unsaturated Hydrocarbon.<sup>4</sup>  
The unsaturated hydrocarbon (200 mg) obtained by the  
dehydrobromination of the bromoderivative by collidine,  
was ozonised for 45 min in acetic acid. The reaction was  
diluted with water (10 ml.) and refluxed for 15 min.  
5 ml. was distilled off from the mixture into a cooled  
receiver and the mixture of higher ketone volatile in  
stems separated off. The distillate was cleared of  
formaldehyde by heating with a saturated aqueous solution  
of KMnO<sub>4</sub> (5 ml.) and the residual volatile products of  
the ozonisation stems distilled once more.

2,4-dinitrophenylhydrazone prepared from the distillate  
(21 mg; B.Pt. 125-126 °C) did not give a depression with  
an authentic sample of the acetone 2,4-dinitrophenylhydrazone.

C<sub>9</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub> (238.2) Calculated: 55.38% C; 4.75% H; 25.52% N  
Found: 45.11% C; 4.50% H; 25.37% N.

Paper chromatography of this in a diethylformamide-  
cyclohexane system (Ref. 13) had an R<sub>f</sub> = 0.37 as did  
the authentic sample of the 2,4-dinitrophenylhydrazone of  
acetone.<sup>5</sup> 2: the unsaturated hydrocarbon (700 mg) obtained  
by the isomerisation of deoxytol on silica gel yielded,  
under analogous conditions to 1, the dinitrophenylhydrazone  
of acetone (35 mg).

Hydrogenation.<sup>6</sup> Ladiene (1.25 g) in acetone (40 ml.)  
and water (20 ml.) was oxidised, with water cooling, then  
shaken with KMnO<sub>4</sub> (1.0 g). The neutral product isolated  
by the usual procedure, was chromatographed on methyl  
Al<sub>2</sub>O<sub>3</sub> (activity III-II). A liquid (B.Pt. 165-170 °C/12 mm)

was eluted with benzene. C<sub>15</sub>H<sub>24</sub>O<sub>2</sub>(236.4) Calculated: 76.22% C; 10.25% H  
Found: 76.9% C; 10.45% H.

The first fraction eluted with ether contained the

crystalline diol described by Kirjalov (1955)

(C<sub>15</sub>H<sub>26</sub>O<sub>2</sub>; B.Pt. 151-152 °C).

There are 15 references, 3 of which are Czech, 6 English,

1 Scandinavian and 1 German.

ASSOCIATION: Oddelení Přírodních Látek, Českého říšského  
Akademického Akademie věd, Praha (Natural Products  
Division, Institute of Chemistry, Czechoslovakia,  
Ac.Sc., Prague)

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1 29 May  
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/ Mechanism of the rearrangement of potassium phthalate and carboxylation of potassium benzoate. Josef Ratusky and František Sorm (Českoslov. akad. věd, Prague). Chem. Listy 52, 2223-2230 (1958).—Heating equimolar amounts of  $C_6H_5CO_2K$  and  $K_3C^{14}O_2$  with 10% powd. Zn 60 min. to 405° in a sealed tube in an autoclave yielded  $\beta-C_6H_5(CO_2H)_2$ . In (1) contg. approx. 50% of the specific activity of  $CO_2$  used in the reaction. Heating similarly an equimolar mixt. of  $Bz_2O$ ,  $K_3C^{14}O_2$ , and Zn 30 min. to 410-25° gave I contg. 65.6% and  $PhCO_2H$  contg. 33.5% activity. On the basis of this evidence as well as of expts. with changed conditions, the authors suggest that in the course of thermal rearrangement of K phthalate only 1  $CO_2H$  group of its mol. undergoes statistical exchange with  $CO_2$  from the reaction atm. In the carboxylation of  $PhCO_2K$  a fast reaction primarily results in statistical exchange of the benzoate  $CO_2H$  with labeled  $CO_2$  and the carboxylation proceeds in the further step with benzoate already labeled with  $C^{14}$ . Reaction mechanisms are discussed.

L. J. Hebešek

<sup>A(w)</sup>  
<sup>1/1</sup> Distr: 4E2c(j)

Distr: 4E2c(j)

Manufacturing terephthalic acid by thermal rearrangement of isomers. Josef Ratajsky and František Šorm, Czech. 91,003, Sept. 15, 1959. Iffy K isophthalate (I) (48.4 g.) and 2 g. Fe powder heated quickly in an autoclave with 30 atm. CO<sub>2</sub> to 460-60°, the temp. kept 30 min., the light gray powd. material extd. with 3 l. hot water, the catalyst filtered off, the clear hot filtrate treated with HCl, the white ppt. sepd., boiled with water 4 times, filtered, and dried 10 hrs. at 140°/10 mm. gave 30 g. terephthalic acid (II), which yielded a di-Me ester, m. 140°. Other examples featured powd. Zn and Cu as catalysts, temp. 410-500°, and mixts. of I, II, and K phthalate as starting materials.

L. J. Urbánek

3  
JAJ(NO)(may)

GK

17(0)

SOV/25-59-6-13/49

AUTHOR: Šorm, František, Academician (CSR)

TITLE: What is new in Cancer Research

PERIODICAL: Nauka i zhizn', 1959, Nr 6, pp 28-30 (USR)

ABSTRACT: The editors first give a short biography of the author (František Šorm), born 1913 in Prague, Doctor of Technical Sciences, Member and Vice-President of the Academy of Sciences, CSR, Director of the Institute of Chemistry Attached to the same Academy, Active Member of both the Soviet and the East-German Academies of Sciences, and Honorary Member of the Hungarian Academy of Sciences. The author then reports on the contemporary situation in the anti-cancer struggle in general, and in CSR in particular. Particular attention is paid to desoxiribonucleoprotein, discovered by the Institute of Chemistry Attached to the Academy of Sciences, CSR, to nucleic acids (DNK, i.e. desoxiribonucleic acid, and RNK, i.e. ribonucleic acid), and to two new anticancer preparations: the 6-azouracil and the 6-azouracilribosid. The author is optimistic in respect to the final success of

Card 1/2

30V/25-59-6-13/49

What is new in Cancer Research

the anti-cancer crusade. There are 2 photos and 1 drawing.

Card 2/2

SORM, Frantisek, Akademik; KNILOVA, Helena, Dr.

Effect of elementary sulphur on antibody formation. Neoplasma, Bratisl.  
6 no.1:27-30 1959.

1. Institute of Chemistry, Czechoslovak Academy of Sciences, Praha 19,  
Na cvicisti 2, Prague.

(NEOPLASMS, extracts,  
sulfur-containing tumor extract, eff. on antibody form. )

(SULFUR, effects,  
sulfur-containint tumor extract & free sulfur, on antibody  
form)

(ANTIBODIES,  
eff. of sulfur-containing tumor extract & free sulfur on  
antibody form.)

KARA, J.;SORM, F.

Adenosinetriphosphatase as the factor inhibiting the enzymic synthesis of diphosphopyridine nucleotides in the tissue of rats and mice with transplanted tumours. Neoplasma, Bratisl. 6 no.3:225-235  
1959.

1. Department of Biochemistry, Institute of Chemistry, Czechoslovak Academy of Sciences, Prague, CSR.

(ADENYL PYROPHOSPHATASE, metab.)

(NUCLEOSIDES AND NUCLEOTIDES metab.)

(NEOPLASMS metab.)

SHERM, F. [Sorm, F.], doktor tekhn.nauk, akademik (Chekhoslovakiya)

New developments in cancer research. Nauka i zhyttia 9  
(MIRA 13:2)  
no.10:60-61 O '59.

1. Vitse-president Chekhoslovatskoy AN, direktor Khimicheskogo  
instituta Chekhoslovatskoy AN, deyestvitel'nyy chlen Chekhoslovatskoy  
AN i AN SSSR, pochetnyy chlen Ugorskoy AN.  
(CANCER RESEARCH)

SORM, F.; MIKES, O.

"Growth factors with a peptic character." II. Chemical properties of growth factors from protein hydrolysates. In German. p. 1525.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.,  
Vol 24, No. 5, May 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59  
Unclassified

SORM, F.; SUCHY, M.; HERCUT, V.

"Terpenes." XCVIII. Proof of structure of arctiopicrin with a note on its stereochemistry. In English. p. 1542.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.,  
Vol. 24, No. 5, May 1959

Monthly List of East European Accessions (EEAI), IC, Vol. 8, No. 6, Sept. 29  
Unclassified

SORM, F.; KEIL, B.

"Proteins." XLVII. Cysteic-acid peptides from a partial chymotrypsinogen hydrolysate. XLVIII. Cysteic-acid peptides from a partial trypsin hydrolysate. In English. p. 1558.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, praha, Czech.,  
Vol. 24, No. 5, May 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59

Unclassified

3-1

COUNTRY	: Czechoslovakia
CATEGORY	: Organic Chemistry--Theoretical organic chemistry
ABS. JOUR.	: RZKhim, No. 5 1960, No.
AUTHOR	: Ratusky, J. and Sorm, F.
INST.	: Not given
TITLE	: On the Mechanism of the Rearrangement of Potassium Phthalate and of the Carboxylation of Potassium Benzoate
CRIG. PUB.	: Collection Czechoslov Chem Commun, 24, No 8, 2553-2559 (1959); Chem Listy, 52, No 12, 2328-2335 (1958)
ABSTRACT	: The mechanism of the rearrangement of K phthalate (I) to K terephthalate (II) and of the carboxylation of K benzoate (III) with the formation of II has been investigated. The rearrangement of I under an atmosphere of $\text{C}^{14}\text{O}_2$ , gives active II. The heating of I with $\text{C}^{14}\text{O}_2$ , to the reaction temperature in the absence of the catalyst or with the catalyst but at a lower temperature does not give active II. II labeled with $\text{C}^{14}$ in the carboxyl group practically does not lower the activity in an atmosphere

156

CARD: 1/4

COUNTRY	: Czechoslovakia
CATEGORY	: Organic Chemistry--Theoretical organic chemistry
ABS. JOUR.	: RZKhim, No. 5 1960, No.
AUTHOR	: Ratusky, J. and Sorm, F.
INST.	: Not given
TITLE	: On the Mechanism of the Rearrangement of Potassium Phthalate and of the Carboxylation of Potassium Benzoate
CRIG. PUB.	: Collection Czechoslov Chem Commun, 24, No 8, 2553-2559 (1959); Chem Listy, 52, No 12, 2328-2335 (1958)
ABSTRACT	: of $\text{CO}_2$ [sic], from which the authors conclude that the reaction $\text{I} \rightarrow \text{II}$ proceeds as an intermolecular reaction with the participation of the $\text{CO}_2$ atmosphere. It is hypothesized that the reaction begins with the ionization of I to give a carbonion (IV) with an unshared pair of electrons in the ortho-position to the carboxyl group and $\text{K}^+$ ; IV rearranges into the more stable isomer with an unshared electron pair in the para-position (V), which subsequently adds $\text{CO}_2$ and $\text{K}^+$ to give II.

156

CARD: 2/4

CATEGORY : *Ozonolysis*  
CATEGORY :  
ABS. JOUR. : RZKhim, No. 51960, No.

12726

AUTHOR :  
TITLE :  
TYPE :

CRMO. PUB. :

ABSTRACT : *tion is apparently initiated by the ionization of III with the formation of K<sup>+</sup>, CO<sub>2</sub>, and the anion C<sub>6</sub>H<sub>5</sub><sup>-</sup>, which undergoes an exchange reaction with III to give C<sub>6</sub>H<sub>4</sub> and V. The latter is further converted to active II in an atmosphere of C<sup>14</sup>O<sub>2</sub>.*

J. Kover

CARD: 4/4

LABLER, L.; SORM, F.

Steroids. XLIV. 3 $\beta$ , 18-dihydroxy-5 $\alpha$ -pregnane-20-one (18-20 cyclo-hemiketal) from holarrhimine. In English. Coll. Cz. Chem. 24 no.9: 2975-2985 S '59. (KMAI 9:5)

1. Department of Natural Products, Institute of Chemistry, Czechoslovak Academy of Science, Prague.  
(Steroids) (Dihydroxyprognanone) (Holarrhimine)

MELOUN, B.; HOLEYSOVSKY, V.; VANECEK, J.; KEIL, B.; SORM, F.

Proteins. LIII. Peptides of aspartic acid and glutamic acid isolated from a chymotrypsinogen hydrolysate. In English. Coll.Cz.Chem. 24 no.9:3002-3006 S '59. (EPAI 9:5)

FAJKOS, J.; SORM, F.

Steroids XXXIX. Epimeric 2- and 4-bromo derivatives of androstan-3-one. In English. Coll.Cz.Chem. 24 no.9:3115-3135 8 '59.

(MCAI 9:5)

1. Department of Natural Products, Institute of Chemistry, Czechoslovak Academy of Science, Prague.  
(Steroids) (Androstanone) (Bromine)

VANECEK, J.; KEIL, B.; MELOUN, B.; SORM, F.

Proteins LIV. Isolation of some peptides from tryptic hydrolysates  
of chymotrypsinogen and diisopropylphosphoryltrypsin. In English.  
Coll.Cz.Chem. 24 no.9:3148-3153 S '59. (EKA 9:5)

1. Department of Biochemistry, Czechoslovak Academy of Science,  
Prague.

(PROTEINS) (PEPTIDES) (CHYMOTRYPSINOGEN)  
(TRYPSIN DIISOPROPYL PHOSPHATE)

GUT, J.; MORAVEK, J.; PARKANYI, C.; SKODA, J.; SORM, F.

Nucleic-acid components and their analogues. III. Antimicrobial effect of some pyrimidine analogues and related compounds. In English. Coll.Cz.Chem. 24 no.9:3154-3162 S '59. (EEAI 9:5)

1. Department of Organic Synthesis and Department of Biochemistry, Institute of Chemistry, Czechoslovak Academy of Science, Prague.
2. Institute for Research, Production and Utilization of Radioisotopes, Prague (for Moravek).  
(Nucleic acids)                    (Pyrimidine)

RYCHLIK, I.; BERANKOVA, Z.; SORM, F.

The influence of some physiologically active substances on in vitro  
enzyme synthesis in mouse pancreas. In English. Coll.Cz.Chem. 24  
no.9;3163-3168 S '59. (EEAI 9:5)

1. Department of Biochemistry, Czechoslovak Academy of Science,  
Prague.

(ENZYMES)

(PANCREAS)

SORM, F.

Proteins, LV. Identical and analogous tripeptide structures in  
proteins. In English. Coll.Cz.Chem. 24 no.9:3169-3179 S '59.  
(EEAI 9:5)

l. Institute of Chemistry, Czechoslovak Academy of Science,  
Prague.

(Proteins) (Peptides)

SICHER, J.; RAJSNER, M.; RUDINGER, J.; ECKSTEIN, M.; SORM, F.

Amino acids and peptides. XXVIII. Synthesis of threo- and erythro-dl- $\alpha$ , $\gamma$ -diamino- $\beta$ -hydroxybutyric acid ( $\gamma$ -aminothreonine and  $\gamma$ -amino-allothreonine). In English. Coll.Cz.Chem. 24 no.11:3719-3729 N '59. (EPAI 9:5)

1. Department of Organic Synthesis, Institut of Chemistry, Czechoslovak Academy of Science, Prague. 2. On leave of absence from the Medical Academy, Krakow, Poland (for Eckstein).

(Amino acids) (Peptides) (Allothreonine) (Amino group)  
(Threonine)

HOLUB, M.; HEROUT, V.; HORAK, M.; SORM, F.

Terpens. CIV. The constitution of betulenols from oil from the buds  
of white birch. (*Betula alba L.*) In English. Coll.Cz.Chem. 24 no.11:  
3730-3738 N '59. (EKA 9:5)

1. Department of Natural Products, Institute of Chemistry, Czechos-  
lovak Academy of Science, Prague.  
(Terpenes) (Betulinol) (Birch)

HOLUB,M.; HEROUT,V.; SORM,F.

On plant substances. VIII. Analysis of substances extracted from  
the roots of a *Laserpitium latifolium* L. IX. Identification of  
3,4-methylenedioxy-5-methoxypropiophenone in the roots of  
*Laserpitium latifolium* L. Coll Cz chem 25 no.12:3926-3937 '59.  
(ZBAI 9:6)

1. Abteilung fur Naturstoffe, Chemisches Institut Tschecho-  
slovakische Akademie der Wissenschaften, Prag.  
(*Laserpitium latifolium*) (Propiophenone).  
(Methylene group) (Methoxy group)

VRKOC,J.; HEROUT,V.; SORM,F.

On plant substances. X. Isolation of crystalline parts of the  
evelasting sand Helichrysum arenarium MCH. Coll Cz chem 25 no.  
12:3938-3954 '59. (KEAI 9:6)

1. Abteilung fur Naturstoffe, Chemisches Institut, Tschecho-  
slovakische Akademie der Wissenschaften, Prag.  
(Helichrysum arenarium)

LABLER, L.; SORM, F.; GERNY, V.

Steroids. XLVI. Partial synthesis of 3,3,20-trimethoxy-18,20-  
epoxy-5  $\alpha$ -pregnane from dihydroholarrhimine. XLVII. Partial  
synthesis of 18-benzoylamino-5 -pregnane-3 -OL-20-one from  
conessine. Coll Cz chem 25 no.12:4010-4021 '59. (EPAI 9:6)

1. Department of Natural Products, Institute of Chemistry,  
Czechoslovak Academy of Science, Prague.  
(Steroids) (Methoxy group) (Holarrhime)  
(Epoxy pregnane) (Amino group) (Pregnancone)  
(Conessine) (Benzoyl group)

SORM, F.; SKODA, J.

Antimetabolites of nucleic acids as carcinostatic substances. Cas. lek.  
cesk. 98 no.28:868-873 10 July 59.

1. Biochemicke oddeleni Chemicky ustav, Ceskoslovenska akademie ved,  
Praha, prednosta akademik Fr. Sorm. F.S., Praha 6, Na cvicisti 2.  
J.S., Praha 12, Nitranska 7.

(CYTOTOXIC DRUGS, eff.

6-azauracil, bacteriol. & carcinostatic properties (Cz))

(URACIL, antag.  
same)

KONIG, J.; MODR, Zd.; SKODA, J.; SMAHEL, O.; SORM, Fr.; SVESHLA, Ct.

Prospects of development in the chemotherapy of malignant tumors in  
Czechoslovakia. Cas. lek. cesk. 98 no.28:877 10 July 59.

1. Interni katedra Ustavu pro doskoleni lekaru v Praze, prednosta doc.  
dr. O. Smahel, Biochemické oddelení Chemického ustavu ČSAV v Praze,  
prednosta akademik Fr. Sorm. J. K., Praha-Krc, Budejovická 800.

(NEOPLASMS, ther.  
chemother., progr. in Czech. (Cz))  
(CHEMOTHERAPY, in various dis.  
cancer, progr. in Czech. (Cz))

*Sorm, F*

✓ Identity of jatamansone and valerenone. J. Ktepinsky,  
V. Herout, and F. Sorm (Czechoslovak Acad. Sci., Prague).  
*Tetrahedron Letters* 1960, No. 3, 9-12; cf. CA 53, 3380c.  
Comparison of phys. constns. of derivs. and of degradation  
products proved the identity of so-called jatamansone (I)  
(Govindachari, et al., CA 54, 4657f) and valerenone (II)  
(Stoll, et al., CA 52, 4550e). Redn. of II with LiAlH<sub>4</sub> gave  
valeranol, C<sub>10</sub>H<sub>18</sub>O, d<sub>4</sub> 1.0046, n<sub>D</sub><sup>20</sup> 1.5005, [α]<sub>D</sub><sup>20</sup> 51.4°  
(CHCl<sub>3</sub>), dehydrated with  $\sigma$ -C<sub>6</sub>H<sub>5</sub>(CO)<sub>2</sub>O at 270-80° to  
valeren, C<sub>10</sub>H<sub>16</sub>, d<sub>4</sub> 0.8045, [α]<sub>D</sub><sup>20</sup> 96.07°, hydrogenated  
with prerduced PtO<sub>2</sub> to valerane, C<sub>10</sub>H<sub>18</sub>, d<sub>4</sub> 0.8965, n<sub>D</sub><sup>20</sup>  
1.4830, also obtained by treatment of II ethylenethinketal  
with Raney Ni in dioxane. The phys. constns. of II, d<sub>4</sub>  
0.9712, n<sub>D</sub><sup>20</sup> 1.4944, [α]<sub>D</sub><sup>20</sup> -43.0°, m.ps. of semicarbazone,  
205-7°; oxime, 113-14°, and 2,4-dinitrophenylhydrazone,  
99-100°, were very similar to the corresponding values  
for I. Ozonization of II monobenzylidene deriv., m. 101-2°,  
and cyclization of the dicarboxylic acid, C<sub>10</sub>H<sub>16</sub>O<sub>4</sub> (III), m.  
236-7°, with Ba(OH)<sub>2</sub> gave the cyclic norvalerenone, C<sub>10</sub>  
H<sub>16</sub>O,  $\nu$  1735 cm.<sup>-1</sup> (semicarbazone m. 238-40°), converted  
to a liquid monobenzylidene deriv. and ozonized to nor-  
valerenic acid (IV), C<sub>10</sub>H<sub>16</sub>O<sub>3</sub>, m. 143°, dehydrated by py-  
rolysis or on treatment with Ac<sub>2</sub>O to the cryst. anhydride,  
C<sub>10</sub>H<sub>16</sub>O<sub>2</sub> (V), m. 77-8°, brominated to a cryst. bromo an-  
hydride (VI), m. 146-8°. Quant. bromination showed that  
a methylene group and a quaternary C atom were adjacent  
to the CO group in II. Dehydrogenation of valerenol with  
S at 180° 4 hrs. or Se at 280-300° 1 hr. or of valeren 1.5  
hrs. with S at 180° or 8 hrs. at 200-50° or 30 min. with lo-  
dine at 280° gave no detectable amt. of an aromatic deriv.  
or of azulene. Only 2 hrs. dehydrogenation of valerenol  
with 50% Pd-C at 320-40° led to a mixt. of azulenic hydro-  
carbons. The degradation of I gave products, m. 233-4°,  
143°, 86-8°, and 143°, corresponding to III, IV, V, and VI.  
A provisional formulation with a partial structure was  
suggested.

C. R. Addinall

*4  
J. S. (W/B)*

JAKUBOVIC, A.; KEILWA, H.; SORM, F.

Certain properties of liver catalase inhibitors present in the  
medium after tumor cell culture. Neoplasma, Bratisl. 7 no.1 suppl:  
71-75 '60.

(NEOPLASMS)  
(CATALASE antag)  
(TISSUE CULTURE)

KEILOVA, H.; JAKUBOVIC, A.; SORM, F.

On inhibition of the liver catalase activity. I. Influence of media after cultivation of Helia strain tumour cells on the activity of liver catalase. Neoplasma, Bratisl. 7 no.3:257-267 '60.

1. Institute of Chemistry, Czechoslovak Academy of Sciences,  
Prague, C.S.S.R.

(LIVER chem)  
(CATALASE chem)  
(TISSUE CULTURE)  
(NEOPLASMS exper)

SMRT, J.; BERANEK, J.; SORM, F.

Nucleic-acid components and their analogies. IV. Synthesis of  
 $\beta$ -d-ribofuranosyl-6-azauracil-5' phosphate and pyrophosphate.  
Coll Cz Chem 25 no.1:130-137 Ja '60. (EEAI 9:12)

1. Department of Organic Synthesis, Institute of Chemistry,  
Czechoslovak Academy of Science, Prague.  
(Nucleic acids) (Phosphates) (Pyrophosphates)  
(Ribofuranosyltriazinedione)

LABLER, L.; SORM, F.

Steroids. XLIII. Partial synthesis of 18-hydroxyprogesterone from  
holarrhimine. Coll Cz Chem 25 no.1:265-269 Ja '60. (EAI 9:12)

1. Department of Natural Products, Institute of Chemistry,  
Czechoslovak Academy of Science, Prague.  
(Steroids) (Hydroxyprogesterone) (Holarrhimine)

VONASEK, F.; HEROUT, V.; SORM, F.

Terpenes. CVII. The composition of essential oil from false cubeb  
and the structure of cubeb camphor. Coll Cz chem 25 no.3:919-926  
(EEAI 9:12)  
Mr '60.

1. Department of Natural Products, Institute of Chemistry,  
Czechoslovak Academy of Science, Prague (for Herout and Sorm).
2. Aroma, Prague 2 (for Vonasek)  
(Pepper) (Terpenes)

KASAL, A.; CERNY, V.; SORM, F.

Steroids. XLIX. Preparation of methylester of 18-dimethylamino-  
3-oxo-5 $\alpha$ -androstane-17 $\beta$ -carboxylic acid. Coll Cz chem 25 no.3:  
927-933 Mr '60. (EEAI 9:12)

1. Department of Natural Products, Institute of Chemistry,  
Czechoslovak Academy of Science, Prague.  
(Steroids)  
(Esters)  
(Dimethylaminochoandrostanecarboxylic acid)

JOSKA, J.; FAJKOS, J.; SORM, F.

Steroids. I. Analogues of androgens with the B-norsteroid skeleton.  
Coll Cz Chem 25 no.4:1086-1090 Ap '60. (EEAI 9:12)

1. Department of Natural Products, Institute of Chemistry,  
Czechoslovak Academy of Science, Prague.  
(Steroids) (Androgens) (Norsteroids)

MALUNOWICZ, I.; FAJKOS, J.; SORM, F.

On steroids. Part 41: Epimeric 2-bromo and 4-bromo derivates of cholestan-3-one. Coll Cz Chem 25 no.5:1359-1370 My '60.

1. Department of Natural Products, Institute of Chemistry, Czechoslovak Academy of Sciences, Prague. 2. On leave of absence from the "Wyzsza szkola rolnicza, Katedra chemii ogolnej," Wroclaw (for Malunowicz).

NOVOTNY, L.; HEROUT, V.; SORM, F.

On terpenes. Part 109: A contribution to the structure of  
absinthin and anabsinthin. Coll Cz Chem 25 no.5:1492-1499  
My '60.

1. Department of Natural Products, Institute of Chemistry,  
Czechoslovak Academy of Sciences, Prague.

NOVOTNY, L.; HEROUT, V.; SORM, F.

On terpenes. Part 110: A contribution to stereochemistry  
of absinthin and artabsin. Coll Cz Chem 25 no.5:1500-1505  
My '60.

1. Department of Natural products, Institute of Chemistry,  
Czechoslovak Academy of Sciences, Prague.

MOTL, O.; HEROUT, V.; SORM, F.

Terpenes. CXII. The composition of the oil from Juniper oxycedrus L.  
berries. Coll Cz Chem 25 no.6:1656-1661 Je '60.  
(EEAI 10:9)

1. Department of Natural Products, Institute of Chemistry, Czechoslovak  
Academy of Science, Prague.

(Terpenes) (Juniper)

MIKES, O.; KAKOL, I.; ZBROZYNA, A. J.; SORM, F.

Proteins. LVIII. Growth-stimulating peptides from neutral fraction of a partial acid hydrolysate of chymotrypsinogen. LIX. Growth-stimulating peptides from neutral fraction of a partial acid hydrolysate of diisopropylphosphoryl trypsin. Coll Cz Chem 25 no.7:1938-1951 (EEAI 10:9)  
J1 '60.

1. Department of Biochemistry, Institute of Chemistry, Czechoslovak Academy of Science, Prague (for Mikes and Sorm)  
2. Present address:  
Department of Biochemistry, Marcel Nencki Institute, Warsaw, Poland  
(for Kakol)  
3. Present address: Department of Biochemistry, State Institute of Hygiene, Warsaw, Poland (for Zbrozyma)

(Proteins) (Peptides) (Chymotrypsinogen)  
(Diisoprophylphosphoryltrypsin hydrolyzates)

DOLEJS, L.; SORM, F.

Terpenes. CXIII. Structure of aromadendrene, alloaromadendrene,  
globulol, ledol and viridiflorol. Coll Cz Chem 25 no.7:1837-1843  
(EEAI 10:9)  
Jl '60.

1. Department of Natural Products, Institute of Chemistry, Czechoslovak  
Academy of Science, Prague.

(Terpenes) (Aromadendrene) (Globulol) (Ledol)  
(Viridiflorol)

JOSKA, J.; FAJKOS, J.; SORM, F.

Steroids. LI.Derivatives of  $5\alpha$ - and  $5\beta$ - $\beta$ -norandrostan. Coll Cz  
Chem 25 no.9:2341-2357 S '60. (EEAI 10:9)

I. Department of Natural Products, Institute of Chemistry, Czechoslovak Academy of Science, Prague.

(Steroids) (Norandrostan)

TOMASEK, V.; HOLEYSOVSKY, V.; MIKES, O.; SORM, F.

Proteins. LXII. Peptides isolated from peptic hydrolysate of diisopropylphosphoryltrypsin. Coll Cz Chem 25 no.9:2369-2375 S '60.  
(EEAI 10:9)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.

(Proteins) (Peptides) (Trypsin) (Isopropyl group)

VANECEK, J.; MELOUN, B.; KOSTKA, V.; KEIL, B.; SORM, F.

Proteins. LXI. Peptides isolated from peptic hydrolysate of chymotrypsinogen. Coll Cz Chem 25 no.9:2358-2368 S '60.  
(EEAI 10:9)

1. Institute of Organic Chemistry and Biochemistry Czechoslovak Academy of Science, Prague.

(Proteins) (Peptides) (Chymotrypsinogen)

CEKAN, Z.; PROCHAZKA, V.; HEROUT, V.; SORM, F.

Terpenes. CXV. Isolation of globicin, a guianolide from Matricaria globifera (Thunb.) Druce. Coll Cz chem 25 no.10:2553-2558 0 '60.  
(EEAI 10:9)

1. Research Institute for Natural Drugs, Prague (for Cekan and Prochazka) 2. Department of Natural Products, Institute of Chemistry, Czechoslovak Academy of Science, Prague. (for Herout and Sorm)

(Terpenes) (Globicin) (Matricaria globifera)

BERANKOVA, Z.; RYCHLIK, I.; SORM, F.

Enzymic inactivation of oxytocin. I. Selective inhibitors of oxytocin  
inactivation. Coll Cz chem 25 no.10:2575-2580 0 '60.  
(EEAI 10:9)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.

(Oxytocins)

SUCHY, M.; HERCUT, V.; SORM, F.

Terpenes. CXVI. Structure of cynaropicrin. Coll Cz Chem 25 no.11:  
2777-2782 N '60. (EEAI 10:6)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.  
(Terpenes) (Cynaropicrin)

GRUNBERGER, D.; CERNA, J.; SORM, F.

Intracellular peptides of Escherichia coli. Coll Cz Chem 25 no.11:  
2800-2806 N '60. (EEAI 10:6)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.  
(Peptides) (Escherichia coli)

CERNY, V.; SCRM, F.

Steroids. LII. Preparation and some reactions of 18-amino-5 $\alpha$ -pregnane-3 $\beta$ ,20 $\beta$ -diol. Coll Cz Chem 25 no.11:2841-2848 N '60.  
(EEAI 10:6)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.  
(Steroids) (Amino group) (Pregnandiol)

KASAL, A.; CERNY, V.; SORM, F.

Steroids. LIII. 18-benzoylaminoprogesterone and some of its  
reactions. Coll Cz Chem 25 no.11:2849-2854 N '60. (EEAI 10:6)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.  
(Steroids) (Benzoyl group) (Amino group)  
(Progesterone)

LABLER, L.; SORM, F.

Steroids. LIV. Some derivatives of (20R)- $3\beta$ ,20-dihydroxypregn-5-en-18-oic acid (18-20) lactone. Coll Cz Chem 25 no.11:2855-2862  
(EEAI 10:6)  
N '60.

1. Institute of Organic Chemistry and Biochemistry Czechoslovak  
Academy of Science, Prague.  
(Steroids) (Lactones)  
(Dihydroxypregnenoic acid)

KARADZOVA, M.; KEIL, B.; SCRM, F.

Peptides isolated from acid hydrolysate of edestin. Coll Cz Chem 25  
no.11:2878-2888 N '60. (EEAI 10:6)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.  
(Peptides) (Edestin)

SORMOVA, Z.; MELICHAR, O.; SORM, F.

Some pyrimidine derivatives as new types of plant stimulants. Coll  
Cz Chem 25 no.11:2889-2898 N '60. (EEAI 10:6)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.  
(Pyrimidine) (Plants)

SEBESTA, K.; BAUEROVA, J.; SORM, F.; SORMOVA, Z.

Transformations of uracil analogues in cucumber seedlings. Coll Cz  
Chem 25 no.11:2899-2905 N '60. (EEAI 10:6)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.  
(Uracil) (Cucumbers)

BAUEROVA, J.; SEBESTA, K.; SORM, F.; SORMOVA, Z.

The effect of uracil analogues on the metabolism of pyrimidines in  
cucumber seedlings. Coll Cz Chem 25 no.11:2906-2912 N '60.  
(EEAI 10:6)

1. Institute of Chemistry and Biochemistry, Czechoslovak Academy of  
Science, Prague.  
(Uracil) (Pyrimidine) (Cucumbers)

S/081/62/000/023/108/120  
B101/B186

AUTHORS: Ratuský, Josef, Šorm, František, Ulbert, Karel

TITLE: Method of producing organic substances having the properties of electric semiconductors

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 742, abstract  
23P476 (Czechosl. pat. 100972, September 15, 1961)

TEXT: Polymeric organic substances of the semiconductor type are obtained by thermal decomposition of inorganic salts of acetylene carboxylic or polyacetylene carboxylic acids, followed by separation from the inorganic salt by boiling with inorganic acids, or by leaching out with water and using the carbonate dissolved in filtrate to neutralize the acetylene carboxylic acid when producing the initial monomer. Example: 50.5 g anhydrous powdery acetylene dicarboxylic K (I), obtained by neutralizing the acetylene dicarboxylic acid, is heated to 285 - 295 C. The resulting mass is cooled, pulverized, leached out with water, and filtered; after drying in air, 5.19 g powder is obtained, the conductivity of which is ✓

Card 1/2

Method of producing organic...

S/081/62/000/023/108/120  
B101/B186

$0.7 \cdot 10^{-4}$  ohm $^{-1} \cdot$ cm $^{-1}$  at 20°C, and  $1.4 \cdot 10^{-2}$  ohm $^{-1} \cdot$ cm $^{-1}$  at 300°C. The filtrate is used for producing I. When 5% by weight of CdCl<sub>2</sub> is used as catalyst, I thermally decomposes at 385 - 400°C. [Abstracter's note: Complete translation.]

Card 2/2

KAFKA, V.; MUSIL, J.; NOVOTNY, A.; PADOVEC, J.; SORM, F.

Chemotherapy with 6-azauracil in gynaecology. Acta univ. carol.  
[med.] 7 no.5:617-633 '61.

1. Klinika chorob zenskych a perodnictvi lekarske fakulty hygienicke  
University Karlovy v Praze, vedouci doc. MUDr. J. Padovec Ustav  
organické chemie a biokémie CSAV, prednosta akademik F. Sorm  
Biochemicke oddeleni fakultni nemocnice v Praze 10, primar MUDr.  
RNDr. J. Oppit.

(GENITALIA FEMALE neoplasms) (URACIL antagonists)  
(ANTINEOPLASTIC AGENTS ther)

JAKUBOVIC, A.; KEILOVA, H.; SORM, F.

On inhibition of liver catalase activity - II. The influence of  
cell-free ascitic fluid on liver catalase activity in mice.  
Neoplasma, Bratislava 8 no.1:45-51 '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague, Czechoslovakia.  
(LIVER metab)  
(CATALASE metab)  
(NEOPLASMS exper)

SORMOVA, Z.; SORM, F.

Anomalous course of thermal denaturation of deoxyribonucleic acids at leukemic and irradiated animals. Neoplasma 8 no.6:619-620 '61.

(DESOXYRIBONUCLEIC ACID chem)  
(LEUKEMIA exper)  
(RADIATION INJURY exper)

DOLEJS, L.; MOTL, O.; SOUCEK, M.; HEROUT, V.; SORM, F.

On terpenes. Part 108: Epimeric aromendendrenes. Stereoisomerism  
of ledol, viridifluorol and lobulol. Coll Cz Chem 25 no.5:1483-  
1491 My '61.

1. Department of Natural products, Institute of Chemistry,  
Czechoslovak Academy of Sciences, Prague.

JAROLIM, V.; STREIBL, M.; HEJNO, K.; SORM, F.

Composition of lignite. I. Some substances present in montan wax.  
II. Additional substances present in montan wax. Coll Cz chem 26  
no.2:459-465 F '61. (EEAI 10:9)

1. Institut fur organische Chemie und Biochemie, Tschechoslowakische  
Akademie der Wissenschaften, Prag.

(Lignite) (Montan wax)

SORM, F.; KEIL, B.; VANECEK, J.; TOMASEK, V.; MIKES, O.; MELOUN, B.;  
KOSTKA, V.; HOLEYSOVSKY, V.

Proteins. LXIII. Lower structures in the chains of proteins. Coll Cz  
chem 26 no.2:531-578 F '61. (EEAI 10:9)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.

(Proteins)

SYKORA, V.[deceased]; NOVOTNY, L.; HOLUB, M.; HEROUT, V.; SORM, F.

The proof of structure of carotol and daucol. Coll Cz Chem 26 no.3:  
788-802 Mr '61. (EEAI 10:9)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.

(Carrots) (Carotol)

SOUCEK, M.; HEROUT, V.; SORM, F.

Terpenes. CXVIII. Constitution of parthenolide. Coll Cz Chem 26  
no.3:803-810 Mr '61. (EEAI 10:9)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.

(Chrysanthemum parthenium) (Terpenes)

DOLEJS, L.; HEROUT, V.; SORM, F.

Terpenes. CIX. Sesquiterpenic compounds of Baccharis genistelloides  
Pers. Structure of palustrol. Coll Cz Chem 26 no. 3:811-817 Mr '61.  
(EEAI 10:9)

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.

(Baccharis genistelloides) (Terpenes)  
(Sesquiterpenes) (Palustrol)

GUT, J.; PRYSTAS, M.; JONAS, J.; SORM, F.

Nucleic acid components and their analogues. Part 9: N-methyl derivatives of 6-azauracil and 6-azathymine. Coll Cz Chem 26 no.4:974-985 Ap '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

(Nucleic acids) (Methyl) (Azauracil)  
(Azathymine)

DOLEJS, L.; MIRONOV, A.; SORM, F.

On terpenes. Part 121: Structure of bulnesol and stereochemistry  
of guaiol, nepetalic acids and iridomyrmecins. Coll Cz Chem 26  
no.4:1015-1020 Ap '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague (for Dolejs and Sorm) 2. Moscow Institute  
of Light Organic Technology, Moscow (for Mironov)

(Terpenes) (Essences and essential oils)

VRKOC, J.; HEROUT, V.; SORM, F.

On terpenes. Part 122: Composition of sesquiterpenic ketonic fraction  
of sweet flag oil. Coll Cz Chem 26 no.4:1021-1025 Ap '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague.

(Terpenes) (Essences and essential oils)

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On proteins. Part 64: The structure of peptides isolated from peptic hydrolysate of diisopropylphosphoryl-trypsin. Coll Cz Chem 26 no.4: 1048-1064 Ap '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

(Proteins) (Peptides) (Trypsin)

SORM, F.

On proteins. Part 65: Some regularities in the structure of ribonuclease. Coll Cz Chem 26 no.4:1174-1179 Ap '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

(Proteins) (Ribonuclease)

SORM, F.

On proteins. Part 66: Resemblances in primary protein structure.  
Coll Cz Chem 26 no.4:1180-1186 Ap '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague.

(Proteins)

CERNA, J.; GRUNDBERGER, D.; SORM, F.

Nucleotide peptides in Escherichia coli. Coll Cz Chem 26 no.4:  
1212-1214 Ap '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague.

(Peptides)

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On steroids. LVIII, Some analogues of androgens substituted in position 7. Coll Cz chem 26 no.6: 1646-1657 Je '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Science.

(Androgens)

BERANKOVA, Z.; RYCHLIK, I.; SORM, F.

Enzymic inactivation of oxytocin. II. Fission of some peptide fragments of the oxytocin structure and their derivatives by pregnancy serum and liver cell sap. Coll Cz chem 26 no.6:1708-1715 Je '61.

1. Institute of Organic Chemistry and Bio-Chemistry, Czechoslovak Academy of Science, Prague.

(Peptides) (Oxytocin)

HOCHMANNOVA, J.; HEROUT, V.; SORM, F.

On terpenes. Part 127: Isolation and structure of sesquiterpenic lactones from common yarrow (*Achillea millefolium* L.). Coll Cz Chem 26 no.7:1826-1831 Jl '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

(Terpenes) (Lactones)

BENESOVA, V.; HEROUT, V.; SORM, F.

On terpenes. Part 128: The existence of  $\alpha$ -and  $\beta$ -humulene. Coll  
Cz Chem 26 no.7:1832-1838 Jl '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague.

(Terpenes) (Humulene)

JOSKA, J.; ACHREM, A.A.; FAJKOS, J.; SORM, F.

On steroids. Part 61: Some B-nor steroid hormone analogues. Coll  
Cz Chem 26 no.8:2050-2057 '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague. 2. On leave of absence from the  
Institute of Organic Chemistry, Academy of Science, Moscow, USSR.  
(for Achrem).

PROCHAZKA, Z.; FAJKOS, J.; JOSKA, J.; SORM, F.

On steroids. Part 60: Microbial oxygenation of B-nor steroids.  
Coll Cz Chem 26 no.8:2068-2071 '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague.

NOVAK, J.J.K.; FARKAS, J.; SORM, F.

Relationship between chemical structure and insecticidal action  
in the series of pyrethroide substances. Part 5: A synthesis of  
trans-2, 2-dichloro-3-phenylcyclorpropane-carboxylic acid and its  
allylrethronyl ester. Coll Cz Chem 26 no.8:2090-2092 '61.

1. Institut of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Sciences, Prague.

SURNAME, Given Names

Country: Czechoslovak

Academic Degrees: [not given]

Affiliation: Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague

Source: Prague, Collection of Czechoslovak Chemical Communications.

Vol 26, No 10, October 1961, pp 2496-2510

Data: "Amino-Acids and Peptides. XXIV. Analogues of Oxytocin Modified in Positions 1 and 2 of the Peptide Chain: Protected Intermediates."

Authors:

JOST, K  
RUDINGER, J  
SORM, F

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: [not given]

Affiliation: Institute of Organic Chemistry and Biochemistry,  
Czechoslovak Academy of Sciences, Prague

Source: Prague, Collection of Czechoslovak Chemical Communications,  
Vol 26, No 10, October 1961, pp 2551-2556

Data: "On Terpenes. CXXX. Isolation of Digeranyl and Isodigeranyl  
from Bergamot Oil."

Authors:

SOUCEK, M

HEROUT, V

SORM, F

SURNAME, Given Name

(1)

Country: Czechoslovakia

Academic Degrees: [not given]

Affiliation: Institute of Organic Chemistry and Biochemistry,

Czechoslovak Academy of Sciences, Prague

Source: Prague, Collection of Czechoslovak Chemical Communications,  
Vol 26, No 10, October 1961, pp 2557-2561

Data: "Enzymic Inactivation of Oxytocin. III. Desthi oxytocin  
and S,S'-Dibenzylidihydrooxytocin as Oxytocinase  
Inhibitors and Substrates."

Authors:

BERANKOVA, Z  
SORM, F

HEROUT, V.; SUCHY, M.; SORM, F.

On terpenes. Part 131: Isolation and structure of costunolide, balchanolide, isobalchanolide and hydroxybalchanolide, sesquiterpenic lactones of germacrane type from Artemisia balchanorum, H. Krasch. Coll Cz Chem 26 no.10:2612-2623 O '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Science, Prague.

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: [not given]  
Institute of Organic Chemistry and Biochemistry,  
Czechoslovak Academy of Sciences, Prague

Sources: Prague, Collection of Czechoslovak Chemical Communications.  
Vol 26, No 10, October 1961, pp 2632-2642

Data: "Enzymic Inactivation of Oxytocin. IV. Characterization  
of Purified Preparations of Serum Oxytocinase."

Authors:

CIHAR, M  
BERANKOVA, Z  
RYCHLIK, I  
SORM, F

ZADRAZIL, S.; SORMOVA, Z.; SORM, F.

Separation of nucleic acid components on Sephadex. Coll Cz Chem 26  
no.10:2643-2650 0 '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak  
Academy of Science, Prague.

*SORM F*  
SURNAME, Given Names

Country: Czechoslovakia  
Academic Degrees: [not given]  
Affiliation: Institute of Organic Chemistry and Biochemistry,  
Czechoslovak Academy of Sciences, Prague  
Source: Prague, Collection of Czechoslovak Chemical Communications,  
Vol 26, No 10, October 1961, pp 2673-2675  
Data: "Inhibition of the Uterus-Contracting Effect of  
Oxytocin by O-Methyloxytocin."

Authors:

BERANKOVA, Z  
RYCHLIK, I  
JOST, K  
RUDINGER, J  
SORM, F

VRKOC, J.; HEROUT, V.; SORM, F.

On terpenes. Part 133: Structure of acorenone, a sesquiterpenic ketone from sweet-flag oil (Acorus calamus L.) Coll Cz Chem 26 no.12:3183-3185 D '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Science, Prague.

SORM, Frantisek, akademik; MASTOVSKY, Otakar; KASPAR, Jan; SIRACKY, Andrej;  
VANA, Josef; ZACHOVAL, Ladislav; RASKA, Karel; BLASKOVIC, Dionyz,  
akademik; WICHTERLE, Otto, akademik; PRANTL, Ferdinand; CUTA, Frantisek;  
JERIE, Jan; HENNER, Kamil, akademik; CAPEK, Ladislav; LINK, Frantisek;  
STRNAD, Julius

Report on the activities of the Czechoslovak Academy of Sciences made  
at its 12th General Assembly, and the discussion. *Vestnik CSAV* 70 no.1:  
26-34 '61.

1. Namestek presidenta Ceskoslovenska akademie ved (for Sorm).
2. Clen korespondent Ceskoslovenske akademie ved (for Mastovsky,  
Kaspar, Siracky, Vana, Zachoval, Raska, Prantl, Cuta, Jerie,  
Capek, Link and Strnad). 3. Predseda Slovenskej akademie vied  
(for Siracky).

SHORM, F. [SORN, F.], akademik; CHERNETSKIY, V.P.; KHLADEK, S. [HLADEK, S.];  
VESELAY, Y.; SMRT, Y.

6-Azacytidine and its derivatives. Dokl.AN SSSR 137 no.6:1393-  
1395 Ap '61. (MIRA 14:4)

1. Institut organicheskoy khimii i biokhimii AN Chekhoslovatskoy SSR,  
Praga (for all except Chernetskiy). 2. Institut organicheskoy khimii  
Akademii nauk USSR, Kiyev (for Chernetskiy).  
(Azacytidine)

S/058/62/000/012/033/048  
A160/A101

AUTHORS: Keil, B., Šorm, F.

TITLE: On proteins. LXXI. An analysis of protein structures from the aspect of amino acid interchanges

PERIODICAL: Referativnyy zhurnal, Fizika, no. 12, 1962, 36 - 37, abstract 12D260 ("Collect. Czechosl. Chem. Comms", no. 5, 1962, v.27, 1310 - 1319, English; summary in Russian)

TEXT: The series of amino acids is compared to various proteins to find the symmetry or a similarity in the arrangement of amino acids along the polypeptide chain by taking into consideration a possible substitution of one amino acid by another. By using the method of symbols, it was shown that the symmetry principle occurs rather frequently in the arrangement of amino acids. For ribonuclease and C cytochrome it was discovered that a definite series type is most frequently found, i.e., a major part of the protein is built from several main series. This is particularly clearly apparent in the case of  $\alpha$ - and  $\beta$ -chains of hemoglobin. Part 70 see ref. 12D259.

[Abstracter's note: Complete translation]

Card 1/1

SMLJKAL, F.; SORM, F.

The effect of 6-azauracil, riboside against vaccinia virus in rabbits. Acta virol. 6 no.3:282 My '62.

1. Research Institute of Antibiotics, Roztoky near Prague, and Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.  
(NUCLEOSIDES AND NUCLEOTIDES pharmacol) (VACCINIA exper)